Paper No. 24

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

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Ex parte DAVID R. HANSEN, and LYDIA A. SALAZAR

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Appeal No. 2001-2470
Application No. 08/890,134

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ON BRIEF

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Before OWENS, WALTZ, and DELMENDO, Administrative Patent Judges.

WALTZ, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on an appeal from the primary examiner's final rejection of claims 1 through 5 and 7 through 19, which are the only claims pending in this application. We have jurisdiction pursuant to 35 U.S.C. § 134.

According to appellants, the invention is directed to elastomer-based adhesive compositions comprising an elastomeric block copolymer having relatively large aromatic resinous endblocks, wherein the composition also includes tackifying

components comprising a midblock compatible resin and oil in specified weight ratios (Brief, page 2). Appellants have found that elastomeric copolymers having large aromatic endblocks and high levels of midblock compatible resin and oil provide adhesives that exhibit superior stress relaxation and set characteristics (Brief, page 3).

Appellants state that the rejected claims "stand or fall together" (*id.*). In view of this statement and the provisions of 37 CFR § 1.192(c)(7)(8)(2000), we select claim 1 from the group of rejected claims and decide the ground of rejection in this appeal on the basis of this claim alone. A copy of illustrative independent claim 1 is attached to this decision.

The examiner relies upon Puletti et al. (Puletti), U.S. Patent No. 4,419,494, issued on Dec. 6, 1983, as evidence of obviousness (Answer, page 2). The claims on appeal stand rejected under 35 U.S.C. § 103(a) as unpatentable over Puletti (Answer, page 3).[1] We *affirm* this ground of rejection

[1]The examiner inadvertently lists claims 1-5 and "7-9" as the claims rejected over Puletti (Answer, page 3). It is apparent that this is merely a harmless typographical error and the correct claims should be 1-5 and 7-19 (see the final Office action dated July 26, 2000, Paper No. 17, page 2; the Brief, page 3; and the Answer, ¶ (3), (6) and (8)). It is noted, however, that the final Office action contained a rejection of all claims under 35 U.S.C. § 102(b) over Puletti and this rejection was not repeated in the Answer (final Office action dated July 26, 2000, Paper No. 17, page 2; Answer, pages 2-3). Therefore we consider this rejection to be withdrawn. *See Paperless Accounting v. Bay Area Rapid Transit Sys.,* 804 F.2d 659, 663, 231 USPQ 649, 652 (Fed. Cir. 1986).

essentially for the reasons stated in the Answer and those reasons set forth below.

OPINION

The examiner finds that Puletti discloses hot melt adhesive formulations based on A-B-A type block copolymers, where the terminal (end) blocks of the copolymer are in a concentration of 86 to 14% and the molecular weights of these terminal blocks are preferably between 15,000 and 100,000 (Answer, page 3). The examiner also finds that the reference prefers the elastomeric block copolymers be unhydrogenated with butadiene and isoprene midblocks (Answer, paragraph bridging pages 3-4). The examiner notes that the trademark copolymers identified by Puletti are the same block copolymers specified by appellants in some of the examples (*id.,* citing Kraton 1650 and composition D in Table 1 of the specification). The examiner further finds that Puletti teaches the use of tackifying resins which include midblock compatible resins and oils in varying amounts (Answer, page 4, with citations to Puletti).

The examiner thus finds that the difference between the claimed subject matter and the disclosure of Puletti is that the claimed weight ratio of midblock compatible resin to oil (1.5:1 to 3.5:1) is "not expressly and specifically cited within the patent." Answer, page 4. However, the examiner concludes that this weight ratio is *prima facie* obvious since ratios of midblock

compatible resin to oil have been disclosed by Puletti that generically encompass the claimed ratio. We agree.

Appellants argue that Puletti discloses that the block copolymer was blended with hydrocarbon resin and oil in a weight ratio of 4:1 with a maximum weight ratio of hydrocarbon resin to block copolymer of 20:30 (Brief, page 4). Therefore appellants argue that Puletti does not teach, show or suggest the claimed weight ratio of 1.5:1 to 3.5:1 midblock compatible resin to oil, or the weight ratio of at least 120:100 midblock compatible resin to unhydrogenated elastomeric block copolymer, as recited in the claims (*id.*). Furthermore, appellants argue that Puletti does not motivate or suggest increasing the amount of oil in the presence of hydrocarbon resin (*id.*).

Appellants' arguments are not persuasive. It is well settled that when the mere difference between the claimed invention and the prior art is some range or other variable, the claimed subject matter is *prima facie* obvious to one of ordinary skill in the art, absent a showing of unexpected results. *See In re Woodruff,* 919 F.2d 1575, 1578, 16 USPQ2d 1934, 1936 (Fed. Cir. 1990). Therefore, even assuming *arguendo* that appellants have correctly interpreted Puletti, the determination or optimization of the claimed weight ratio would have been well within the ordinary skill in this art. *See Woodruff, supra; In re Boesch,* 617 F.2d 272, 276, 205 USPQ 215, 219 (CCPA 1980); *and In re*

Aller, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955). Furthermore, even with appellants' interpretation of the reference, the claimed upper limit of the weight ratio (3.5:1) would have been so near the disclosed value of 4:1 by Puletti that one of ordinary skill in the art would have expected these values to produce similar properties, and thus the claimed ratio would have been *prima facie* obvious in view of Puletti. *See Titanium Metals Corp. of America v. Banner,* 778 F.2d 775, 781, 227 USPQ 773, 779 (Fed. Cir. 1985).

However, we cannot agree with appellants' narrow interpretation of the reference. The weight ratio of 4:1 for midblock compatible resin to oil is only taught in the Examples of Puletti (see Tables 1-3 on cols. 9-10, where Escorez 5320 is the hydrocarbon resin or midblock compatible resin and the mineral oil is the oil component). As correctly stated by the examiner, the disclosure of Puletti is not limited by the examples (Answer, page 5). *See In re Lamberti,* 545 F.2d 747, 750, 192 USPQ 278, 280 (CCPA 1976); *and In re Widmer,* 353 F.2d 752, 757, 147 USPQ 518, 523 (CCPA 1965). A reference is available for all that it discloses and suggests to one of ordinary skill in the art, and the examples are merely that, exemplary of what the reference discloses. Puletti generically discloses amounts of the midblock compatible resin, the oil, and the elastomeric copolymer which encompass the claimed weight

ratios (see the Answer, pages 5-6). Furthermore, this reference suggests varying the amount and type of component depending on the desired properties and end uses, stating that this knowledge is "readily available to those skilled in the particular art." Col. 1, ll. 63-68; see also col. 6, ll. 34-41; and col. 8, ll. 1-32. Accordingly, we agree with the examiner that Puletti would have suggested the claimed weight ratios of components to one of ordinary skill in this art at the time of appellants' invention.

For the foregoing reasons and those set forth in the Answer, we determine that the examiner has established a *prima facie* case of obviousness in view of the reference evidence. Appellants argue that the present invention clearly shows unexpected results over the closest prior art (Brief, pages 4-5). Therefore we must reconsider the evidence of obviousness in light of the evidence of non-obviousness and determine, based on the totality of the record, whether a preponderance of evidence exists in favor of obviousness or non-obviousness. *See In re Oetiker,* 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992).

Appellants submit that the present invention has surprisingly found that the size of the aromatic endblocks, and not the quantity of the aromatic endblocks, is significant and provides the elastomeric copolymers with superior stress relaxation and set characteristics (Brief, page 4). Appellants argue that a clear showing of unexpected results is shown in

Table 1 of the specification, where appellants' examples (adhesive formulations B, C, M, N, Q, R, S and T) having larger aromatic endblocks (molecular weights greater than 14,700) and high levels of midblock compatible resin and oil (at least 2.5:1) exhibit better properties than adhesive composition A prepared with smaller aromatic endblocks (molecular weight of 11,400)(Brief, page 5).

Appellants' comparative data is not persuasive of non-obviousness. As noted by the examiner (Answer, page 8), Puletti clearly discloses and prefers block copolymers where the endblocks have molecular weights greater than 15,000 (see col. 2, ll. 32-35). The examiner also notes that Puletti discloses and exemplifies block copolymers which are the same as appellants' preferred block copolymers (e.g., Kraton G1650; see the Answer, page 8; Puletti, col. 3, ll. 13-15; and Tables 1-3 on cols. 9-10). To be effective, a comparison must show unexpected results over the closest prior art. *See In re Geisler*, 116 F.3d 1465, 1469, 43 USPQ2d 1362, 1365 (Fed. Cir. 1997). Appellants have not established that copolymers having endblocks of molecular weight 11,400 constitute the closest prior art.[2] Therefore we determine that appellants' comparative showing has not been made with the closest prior art. Furthermore, such a showing of unexpected

[2]Actually it appears that formulation A in Table 1 contains a copolymer with aromatic endblocks of 11,100 molecular weight (see footnote 14 on page 24 of the specification).

results must also be commensurate in scope with the claimed subject matter. *See In re Boesch, supra; and In re Payne,* 606 F.2d 303, 315-16, 203 USPQ 245, 256 (CCPA 1979). Appellants' comparative data is limited to a showing of specific copolymers with endblocks having molecular weights above 14,700 and specific midblock compatible resins and oil at ratios of at least 2.5:1 (see the Brief, page 5, and the specification, Table 1 and page 24). Claim 1 on appeal is not so limited, including many different elastomeric block copolymers with endblock molecular weights as low as 13,000, and many different tackifying components, including midblock compatible resins and oils at weight ratios as low as 120:100 (see claim 1 on appeal).[3] Therefore we determine that the showing submitted by appellants is not commensurate in scope with the subject matter sought to be patented.

For the foregoing reasons and those set forth in the Answer, we determine that the evidence submitted by appellants is not persuasive of non-obviousness. Based on the totality of the record, including due consideration of appellants' evidence and arguments, we determine that the preponderance of evidence weighs most heavily in favor of obviousness within the meaning of

[3]In the event of continuing prosecution before the examiner, the examiner and appellants should review the basis in the written description under the first paragraph of 35 U.S.C. § 112 for the claimed weight ratio of "at least" 120:100 (see the specification, page 13, ll. 12-14).

section 103(a). Accordingly, we affirm the examiner's rejection of claims 1-5 and 7-19 under 35 U.S.C. § 103(a) over Puletti.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

AFFIRMED

TERRY J. OWENS Administrative Patent Judge	)
THOMAS A. WALTZ Administrative Patent Judge	) BOARD OF PATENT) APPEALS AND) INTERFERENCES
ROMULO H. DELMENDO Administrative Patent Judge	)

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APPENDIX

Claim 1

1. An adhesive composition, comprising:

A) a base composition, comprising

(i) 15-35 wt% of an unhydrogenated elastomeric block copolymer having a polymerized conjugated diene midblock portion and at least two polymerized monovinyl arene endblock portions, each of said endblock portions having a molecular weight within the range of 13,000 to 30,000, wherein said endblock portions are present at a total concentration within the range of 20 to 24 %wt based upon the total weight of said unhydrogenated elastomeric block copolymer; and

(ii) 85-65 wt% based on the total weight of (i) and (ii) of tackifying components comprising a midblock compatible resin and oil, said midblock compatible resin and said oil being present in a weight ratio within the range of 1.5:1 to 3.5:1 midblock compatible resin:oil and said midblock compatible resin and said unhydrogenated elastomeric block copolymer being present in a weight ratio of at least 120:100 midblock compatible resin:unhydrogenated elastomeric block copolymer; and

B) a stabilizer, said stabilizer being present in an amount within the range of 0.01 to 5 wt% based on the weight of said base composition.